

## **REMARKS**

### **I. Claims**

Applicants received the Office action dated March 29, 2007. Claims 7, 9-11, 13-17 and 21 were pending in the above application. By this paper, claim 21 has been amended. New claims 22 and 23 have been added. Claims 22 and 23 find support in the specification on pages 8 to 10, and also in Figures 4. Upon entry of this Amendment D, claims 7, 9-11, 13-17 and 21-23 will be pending in the application.

### **II. Claims Rejection 35 USC § 112**

Reconsideration is requested of the rejection of claims 21, 7, 9-11, and 13-17 under 35 USC § 112, second paragraph as being indefinite for lacking sufficient antecedent basis for the limitations "the inner surface " and "the outer surface". Claim 21 has been amended to provide the necessary basis for the limitations. Claims 7, 9-11, and 13-17 depend from claim 21.

### **III. Rejection of Claims 21, 7, 9-11, 13-14, and 16-17 under 35 USC § 103**

Reconsideration is requested of the rejection of claims 21, 7, 9-11, 13-14, and 16-17 under 35 USC § 103(a) as being unpatentable over Baecker et al. (US 5,725,921) in view of Steele et al. (US 5,302,428).

The present invention relates to a field liner that is locatable on a timber pole for protecting the timber pole against subsoil decay. In practice, for the protection of a pole, the field liner must cover either the entire region of the pole that will be located beneath the soil level of the soil in which it is supported, or it must cover the pole at least to a depth beyond which anaerobic conditions exist and where subsoil decay is thus unlikely to occur.

The field liner that was originally proposed comprises an elongate sleeve formed of a laminate structure including at least two layers, each of a synthetic plastics material and at least one layer having heat shrink properties. The sleeve is dimensioned to fit snugly onto the tapered butt of the pole to be protected and is then securely located

through heat shrinking. This methodology necessitated introduction of dedicated heatshrinking stations with specially designed equipment and training of operators, amongst others; an expensive proposition to be commercialized. The difficulties that were encountered included the correct positioning of the sleeve on a timber pole in order to cover the required region of the pole that should be protected and also the actual heat shrink process, which is difficult to achieve in a simple and cost-effective manner. Although it was proposed to seal one end of a sleeve to thereby facilitate the location of a sleeve on a pole, this did not alleviate the problems associated with heat shrinking.

The next generation field liner included a sleeve, loosely locatable on a pole, and a covering sheet secured to and extending from the sleeve, which can be tightly drawn and held around the sleeve, particularly with the aid of **straps and buckles**. A difficulty encountered with this design is that with back filling of a hole in which a pole is positioned, the straps and buckles are exposed to soil filling the hole and, as such, are exposed to being damaged, while the field liner itself also can be displaced thereby.

The field liner of the current invention includes two key embodiments. In one embodiment, the field liner is a mere rectangular sheet that can be wound around a pole and secured by means of **an adhesive strip**. The other embodiment comprises a sleeve having an effective diameter significantly larger than a pole to be covered thereby, permitting easy location on a pole and subsequent wrapping of excess material around the pole, the sleeve then being securely locatable with the aid of an adhesive strip externally thereon. In relation to both these embodiments the location of the field liner on a pole again presented a problem, for the same reasons as set out above. In respect of the sleeve embodiment the problem was effectively alleviated by at least **partially sealing** one end of the sleeve, which clearly facilitates the location of the sleeve on a pole, while also providing an arrangement which provides for an outer circumferential segment of the butt of a pole to be covered, while still permitting water drainage, an essential requirement of an effective field liner. This latter embodiment of a field liner is the embodiment now covered in Claim 21.

Particularly in relation to the embodiment field liner as covered in Claim 21 and as explained above, the location of the field liner on a pole is completely facilitated, a pole merely being inserted into a sleeve until it abuts against the partially sealed end of the sleeve. By wrapping excess material of the sleeve around the tapered pole and securing it by means of an adhesive strip, the secure location of a sleeve on a pole is rendered extremely simple and time efficient when compared with the application of the previous field liners as explained above. Further, through the use of the adhesive strip, the outer surface of the field liner following application is completely smooth. Therefore, in the embodiment disclosed in claim 21, damage of the sleeve due to back filling with soil is resolved; as is displacement of the field liner on the pole.

Further, unlike a field liner heat shrunk onto a pole, the field liner of Claim 21 is still partially removable from a pole in a relatively easy fashion and also re-locatable, thus permitting pole inspection from time to time.

The Applicant submits that the field liner as defined in Claim 21 includes features that are both novel and not obvious.

The Examiner relies essentially on the disclosure of Applicant's US 5,725,921 (hereinafter Baecker) and the disclosure of US 5,302,428 (hereinafter Steele) for his rejections, based on obviousness, in relation to the majority of the rejected claims

Baecker discloses a field liner comprising a sleeve that is heat shrunk onto a pole. The sleeve must thus fit snugly and slidably onto a pole and is then located by heat shrinking, the location of the sleeve on a pole not being associated in any way with the use of an adhesive. The sleeve is formed by a conventional plastics sleeve manufacturing process. The use of an adhesive for forming the sleeve or for locating the sleeve on a pole is nowhere referred to or alluded to in the disclosure. Applicant acknowledges the Office's realization that "Baecker fails to expressly disclose in which the second layer of material is provided with a strip of an adhesive substance externally thereon". This issue of an adhesive material is addressed further under Steele below.

Additionally, Baecker did not disclose protection against subsoil decay using " a sheet element that forms an elongate sleeve **of which one end is at least partially sealed**" (col. 2, lines 47-49) as stated by the Examiner. This is a significant distinguishing feature, a limitation in the present application that permits protection of the butt of the pole also against decay. Steele discloses a substantially rectangular discrete sheet material section that can be wound around a pipe, initially being held in position on a pipe with the aid of an adhesive and then being secured on the pipe by heat shrinking. The Steele disclosure includes a functional layer segment and a backing layer segment, the sheet, for location on a pipe, requiring it to be wound around the pipe so that the functional layer wraps around the pipe and the backing layer wraps around the functional layer, an adhesive stripe at the free end of the backing layer permitting this end to be adhered to the region of the backing layer overlapped by the end segment of this (backing) layer. A sleeve is thereby effectively formed around the pipe, which is then securely located in order to achieve the purpose of the sleeve by heat shrinking. When folded into the cylindrical form around the pole, the strip of adhesive material is **not external**, (see feature 26 in Figs 4 and 5 of Steele). Contrarily, the current application additionally requires an **external strip of adhesive material on the folded elongate (cylindrical) sleeve** (feature 54 in Figs 4C and 4E).

Where Steele required an external patch of adhesive on the plane sheet for formation of a cylinder, which adhesive becomes internal when wrapped around the pole, in the current application, the externally located strip on the cylinder is intended for tightening the loosely fitted cylinder of protective material onto the pole, not to form the cylinder. The adhesive strip is external when the sleeve is in its cylindrical form in claim 21. Steele and the other art of record (Holt, Baeker) fail to show or suggest this.

The Steele patent in effect provides for a sheet material section to be wound around a pipe having a diameter typically in the order of 90mm, i.e. a section that has a length in the order of 600mm and a width in the order of 300mm. With such dimensions, it is easy for a single person to handle the section for winding it around a pipe and for initially securing it with the aid of an adhesive strip. It must be understood, however, that a typical pole onto a which a liner must be applied will have a diameter

between 300mm and 500mm, requiring, a sheet element that is in the order of 2m long, in order to ensure a sufficient overlap to provide an effective field liner, and in the order between 2m and 3.5m wide, in order to cover the desired length of the pole for preventing subsoil decay of the pole when supported in the ground. In order to handle such a sheet element, which due to its inherent construction also is relatively heavy, it will in practice require two or three people to hold the sheet element in place with respect to a pole and to wind it around the pole and then secure it to the pole in order to permit it to serve as a field liner. This mode of locating a field liner on a pole also will be extremely time consuming and although this will constitute an obvious way of applying a field liner on a pole in the light of the Steele patent, that provides for the location of a sheet element on a pipe, and it clearly is impractical being very labor intensive and time consuming.

The current invention in effect resolves the problem insofar as the field liner involved is provided in a **sleeve** form which can be easily located on a pole by a single person and with respect to which it will be relatively easy for a single person to wrap excess material of the sleeve around the pole and secure this excess material **with the aid of an adhesive strip** applied to the sleeve, even with the pole tapering. It will immediately be appreciated also that a single size sleeve can be accommodated on a range of pole sizes which is not possible where heat shrinking is required and where a sleeve must fit snugly onto a pole before heat shrinking. Steele is thereby distinguished.

Further, insofar as both the prior art devices are thus secured on their substrate by heat shrinking, the mode of location of the sleeve of the invention as above defined can in no way be considered obvious based upon the disclosures of Baecker and Steele. It is nowhere envisaged in these prior art that a sleeve can be located on a pole by providing it with an effective diameter significantly larger than that of the pole on which it must be located and then to wrap excess sleeve around the pole and securing the sleeve by means of an adhesive strip. There also is no sense in associating the use of an adhesive strip with the heat shrinkable sleeve of the Baecker disclosure, keeping in

mind that for its effective use, it must slide snugly onto a pole, to permit it's location by heat shrinking; wrapping of excess sleeve material around the pole is thus not a possibility or a consideration. Thus Baecker and Steele are distinguished from the present invention with regard to the role of adhesive patch in fit of the sleeve to the pole.

#### IV. Rejection of Claim 15 under 35 USC § 103

Reconsideration is requested of the rejection of claim 15 under 35 USC § 103(a) as being unpatentable over Baecker et al. (US 5,725,921) in view of Steele et al. (US 5,302,428) and Holt et al. (US 5,070,597)

Claim 15 is directed to incorporation of a third layer, a vapor-impervious aluminum sheet. The Examiner based his rejection of claim 15 on Holt (US 5,070,597). Holt is directed to flexible, heat shrinkable tubes for the protection of buried cables, pipes, etc...In Holt, a thin metal foil (0.00025 to 0.013 cm), such as aluminum, **may be provided for example as a moisture vapour barrier, or to render the article conductive ...**" (col. 7, lines 53 to 64). This application of a thin aluminum protective layer to electrical cables and pipes does not render obvious an application to protection of large wooden telephone poles against loss of chemical preservatives as in the current application.

Effectively, Holt literally discloses a rubber "lifebelt" arrangement that "rolls" onto the end of a cable or the like, and the only sliding that happens is that relative motion that takes place, in opposite directions, between the two opposing walls of the "lifebelt" as it is rolled along the projection it is being rolled onto. Applicant believes that Holt is too far removed from the current invention to render it obvious. Holt relates to joining electrical cables and pipes (see col. 1). Joining electrical cables and pipes is not in the same field as field liners for timber poles. Moreover, it is not a field in which one of ordinary skill in the art for protecting timber poles against decay would look to for solving problems associated with decay of timber poles placed in the ground. Applicant

believes use of an aluminum foil in one arena to provide a unique protection should not be a bar to its use in a totally disparate field to offer a different set of benefits.

## **V. New Claims**

New claims 22 and 23 have been added which are directed to the method of forming the protective cylinder, the elongated sleeve, and its use. These claims expressly distinguish the present invention from the prior art and are supported by the specification at pages 8 to 10 and by Figures 4 as original presented.

**CONCLUSION**

In view of the foregoing, applicant respectfully requests the rejections be withdrawn and request allowance of claims 7, 9-11, 13-17 and 21-23 now pending in this application.

Applicant requests extension of the time for responding to the office action dated March 29, 2007 for six months to September 29, 2007. The Commissioner is authorized to charge any fees due or underpayment of government fees to Deposit Account No. 19-1345.

Respectfully Submitted,

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